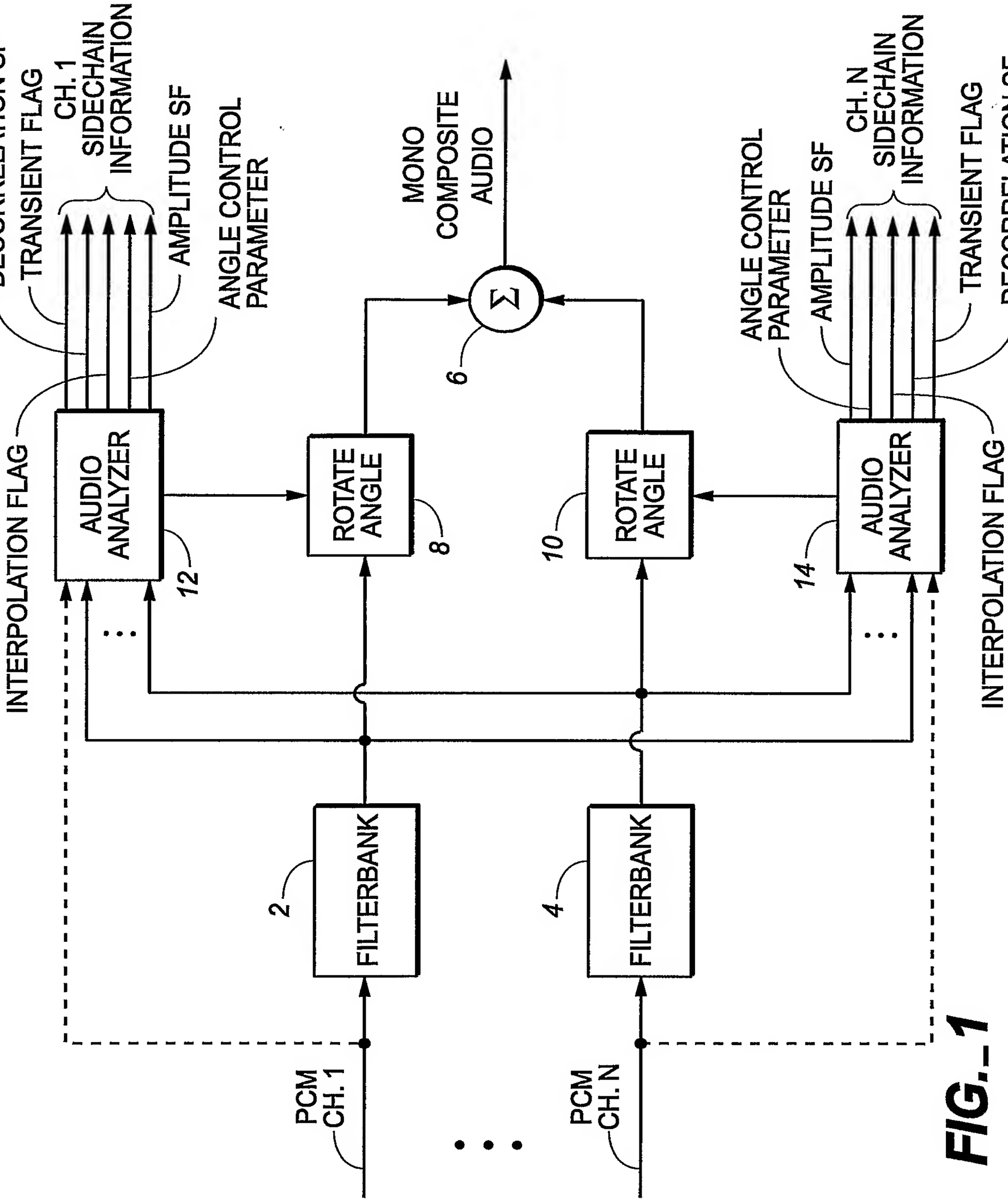

DECORRELATION SF
TRANSIENT FLAG
CH. 1 SIDECHAIN INFORMATION
AMPLITUDE SF
ANGLE CONTROL PARAMETER
INTERPOLATION FLAG
AUDIO ANALYZER
12
ROTATE ANGLE
8
MONO COMPOSITE AUDIO
Σ
6
ROTATE ANGLE
10
AUDIO ANALYZER
14
ANGLE CONTROL PARAMETER
AMPLITUDE SF
CH. N SIDECHAIN INFORMATION
TRANSIENT FLAG
DECORRELATION SF
INTERPOLATION FLAG
FILTERBANK
2
FILTERBANK
4
PCM CH.1
PCM CH.N

FIG._1

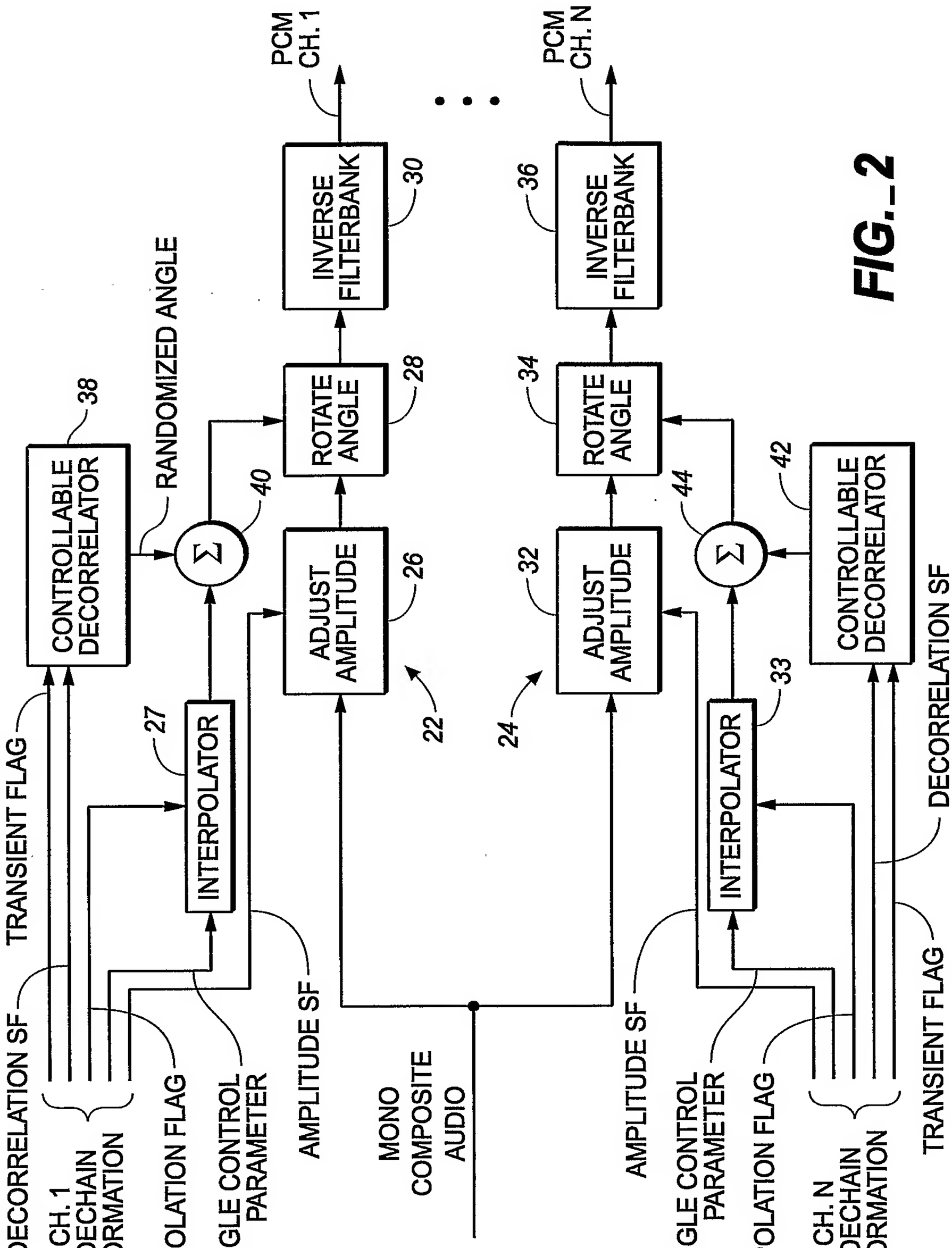

PCM CH. 1
PCM CH. N
INVERSE FILTERBANK
30
36
INVERSE FILTERBANK
RANDOMIZED ANGLE
38
CONTROLLABLE DECORRELATOR
ROTATE ANGLE
28
34
40
Σ
ADJUST AMPLITUDE
26
32
27
INTERPOLATOR
22
24
ADJUST AMPLITUDE
ROTATE ANGLE
44
42
Σ
CONTROLLABLE DECORRELATOR
33
INTERPOLATOR
TRANSIENT FLAG
DECORRELATION SF
CH. 1 SIDECHAIN INFORMATION
INTERPOLATION FLAG
ANGLE CONTROL PARAMETER
AMPLITUDE SF
MONO COMPOSITE AUDIO
AMPLITUDE SF
ANGLE CONTROL PARAMETER
INTERPOLATION FLAG
CH. N SIDECHAIN INFORMATION
DECORRELATION SF
TRANSIENT FLAG

FIG._2

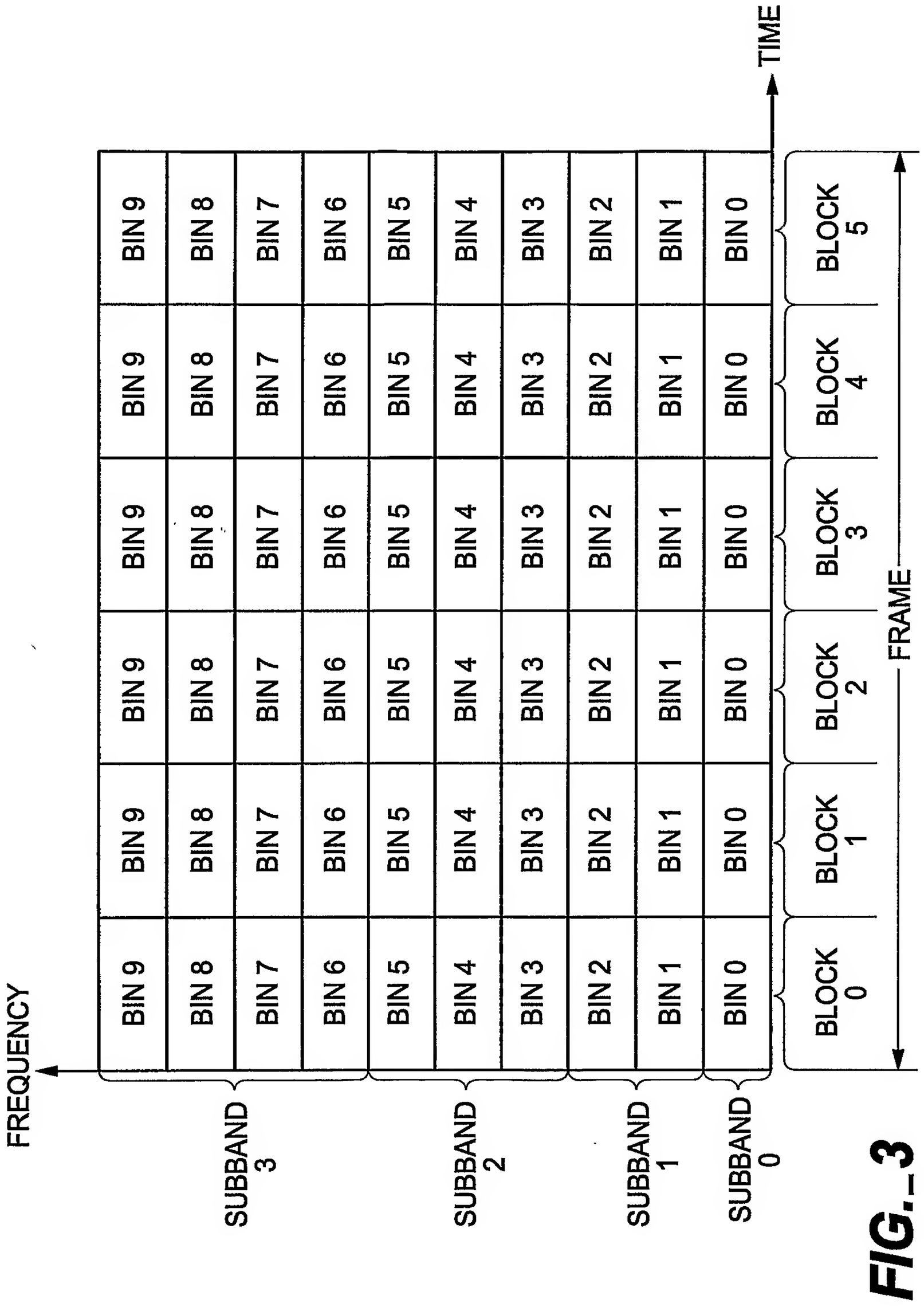
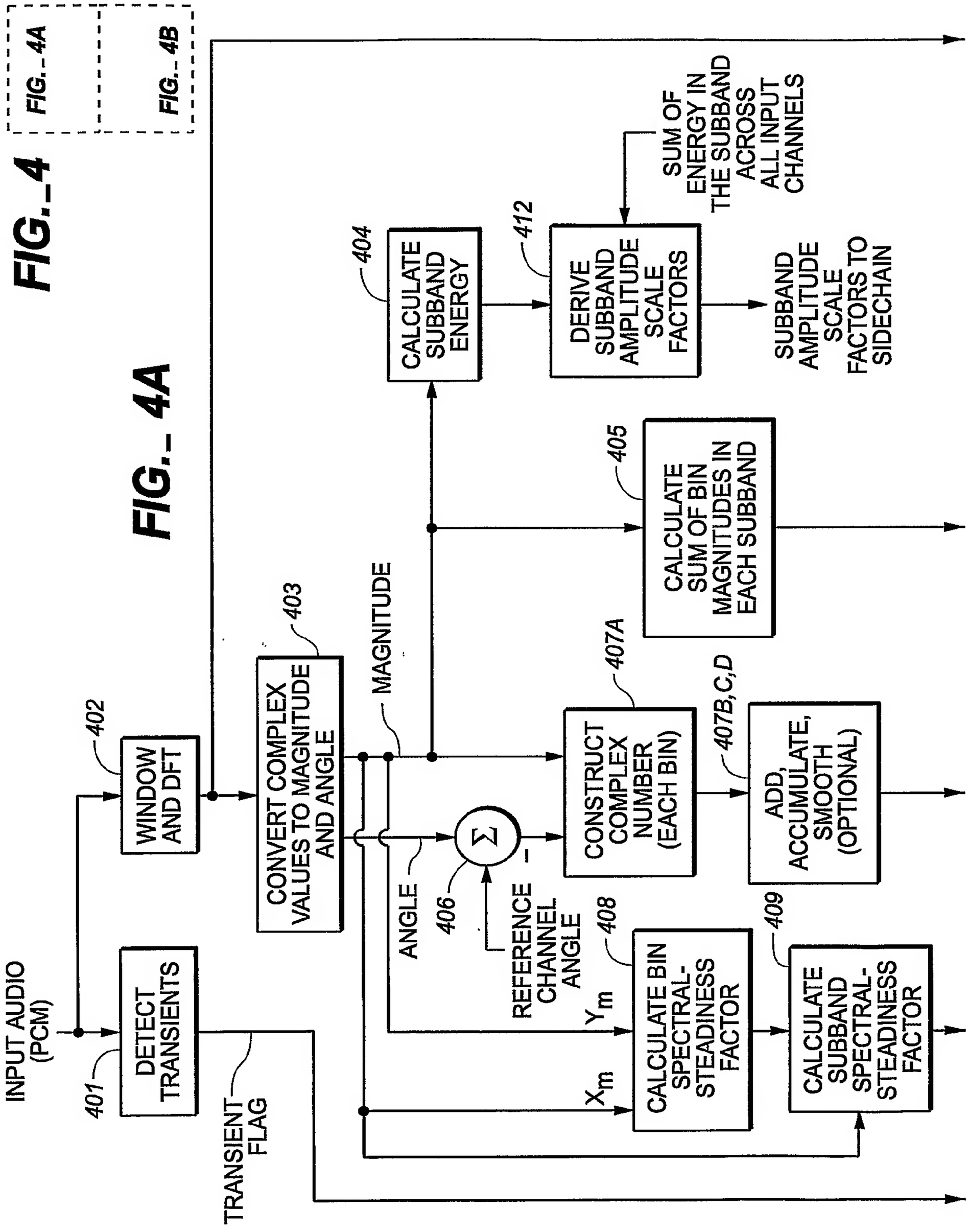

TIME
FREQUENCY
BIN 9
BIN 8
BIN 7
BIN 6
BIN 5
BIN 4
BIN 3
BIN 2
BIN 1
BIN 0
BLOCK 5
BLOCK 4
BLOCK 3
BLOCK 2
BLOCK 1
BLOCK 0
FRAME
SUBBAND 3
SUBBAND 2
SUBBAND 1
SUBBAND 0

FIG._3

FIG._4

FIG._4A FIG._4B

FIG._ 4A



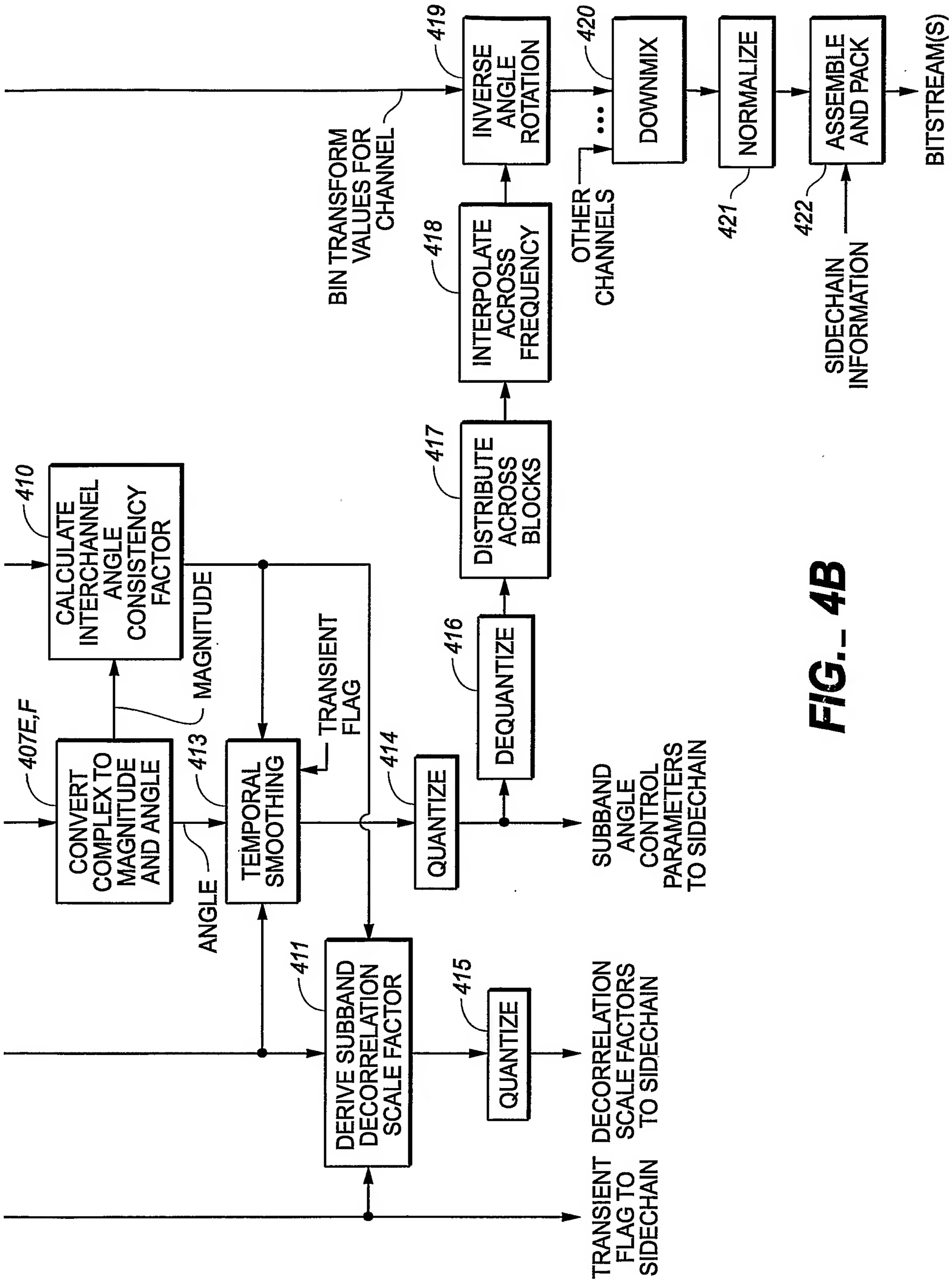
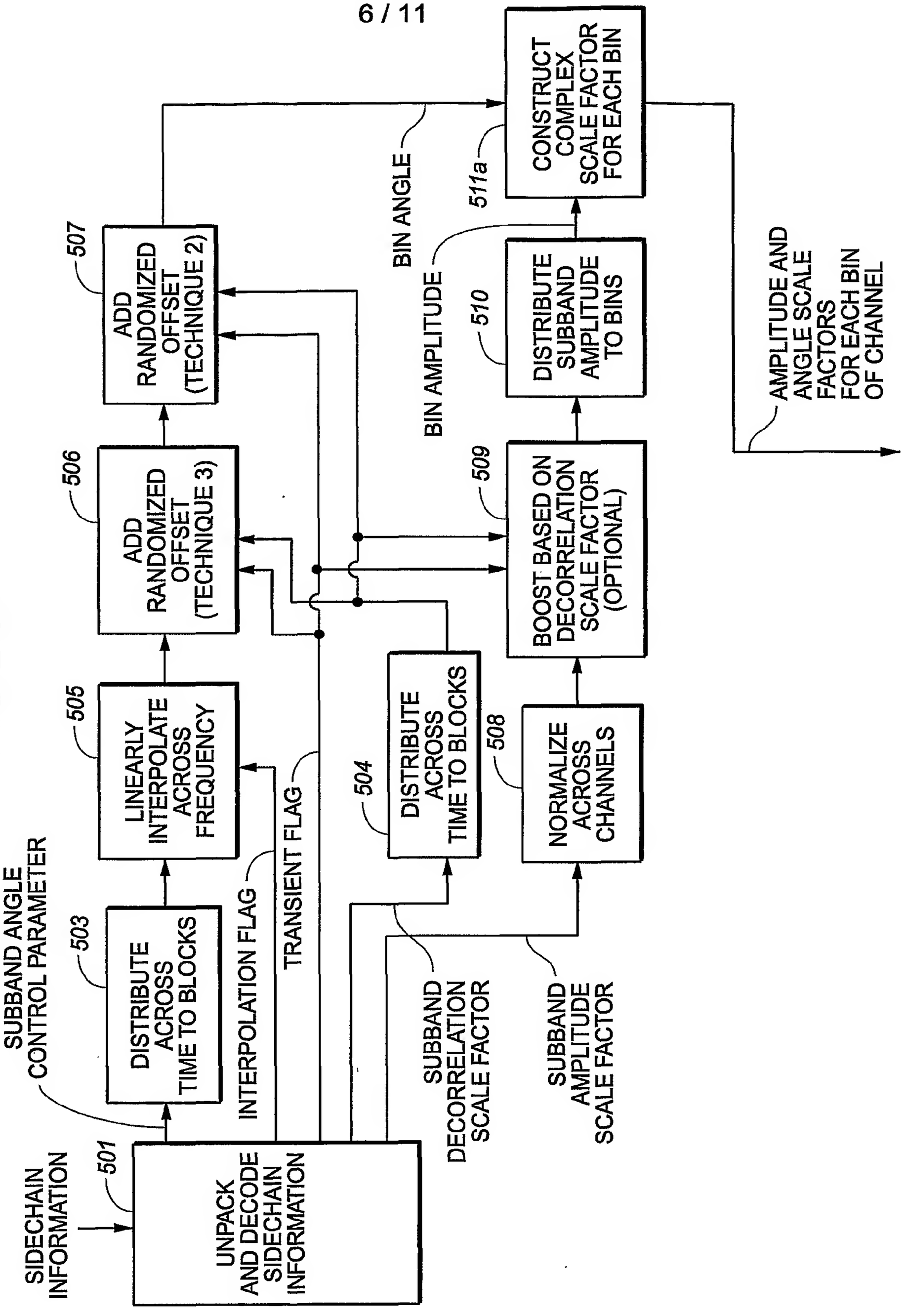

BIN TRANSFORM VALUES FOR CHANNEL
419
INVERSE ANGLE ROTATION
420
DOWNMIX
NORMALIZE
ASSEMBLE AND PACK
BITSTREAM(S)
418
INTERPOLATE ACROSS FREQUENCY
OTHER CHANNELS
421
422
SIDECHAIN INFORMATION
410
CALCULATE INTERCHANNEL ANGLE CONSISTENCY FACTOR
417
DISTRIBUTE ACROSS BLOCKS
407E,F
CONVERT COMPLEX TO MAGNITUDE AND ANGLE
MAGNITUDE
413
TEMPORAL SMOOTHING
TRANSIENT FLAG
414
QUANTIZE
416
DEQUANTIZE
SUBBAND ANGLE CONTROL PARAMETERS TO SIDECHAIN
411
DERIVE SUBBAND DECORRELATION SCALE FACTOR
415
QUANTIZE
TRANSIENT FLAG TO SIDECHAIN
DECORRELATION SCALE FACTORS TO SIDECHAIN

FIG._4B

FIG._ 5A


SIDECHAIN INFORMATION
501
UNPACK AND DECODE SIDECHAIN INFORMATION
SUBBAND ANGLE CONTROL PARAMETER
503
DISTRIBUTE ACROSS TIME TO BLOCKS
INTERPOLATION FLAG
TRANSIENT FLAG
505
LINEARLY INTERPOLATE ACROSS FREQUENCY
506
ADD RANDOMIZED OFFSET (TECHNIQUE 3)
504
DISTRIBUTE ACROSS TIME TO BLOCKS
507
ADD RANDOMIZED OFFSET (TECHNIQUE 2)
508
NORMALIZE ACROSS CHANNELS
509
BOOST BASED ON DECORRELATION SCALE FACTOR (OPTIONAL)
SUBBAND DECORRELATION SCALE FACTOR
SUBBAND AMPLITUDE SCALE FACTOR
BIN ANGLE
BIN AMPLITUDE
510
DISTRIBUTE SUBBAND AMPLITUDE TO BINS
511a
CONSTRUCT COMPLEX SCALE FACTOR FOR EACH BIN
BIN AMPLITUDE AND ANGLE SCALE FACTORS FOR EACH BIN OF CHANNEL

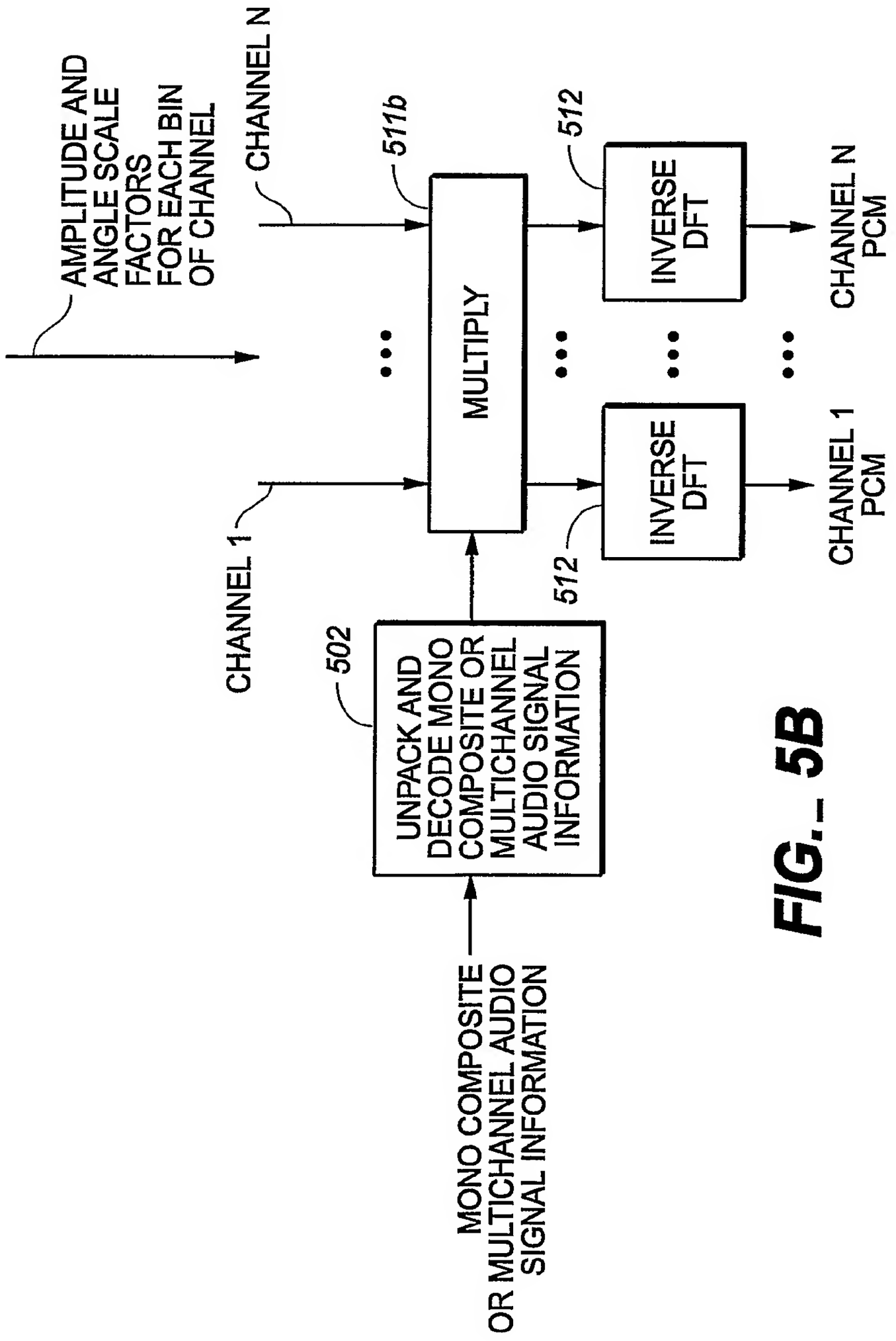


FIG._ 5B

FIG._ 5A

FIG._ 5

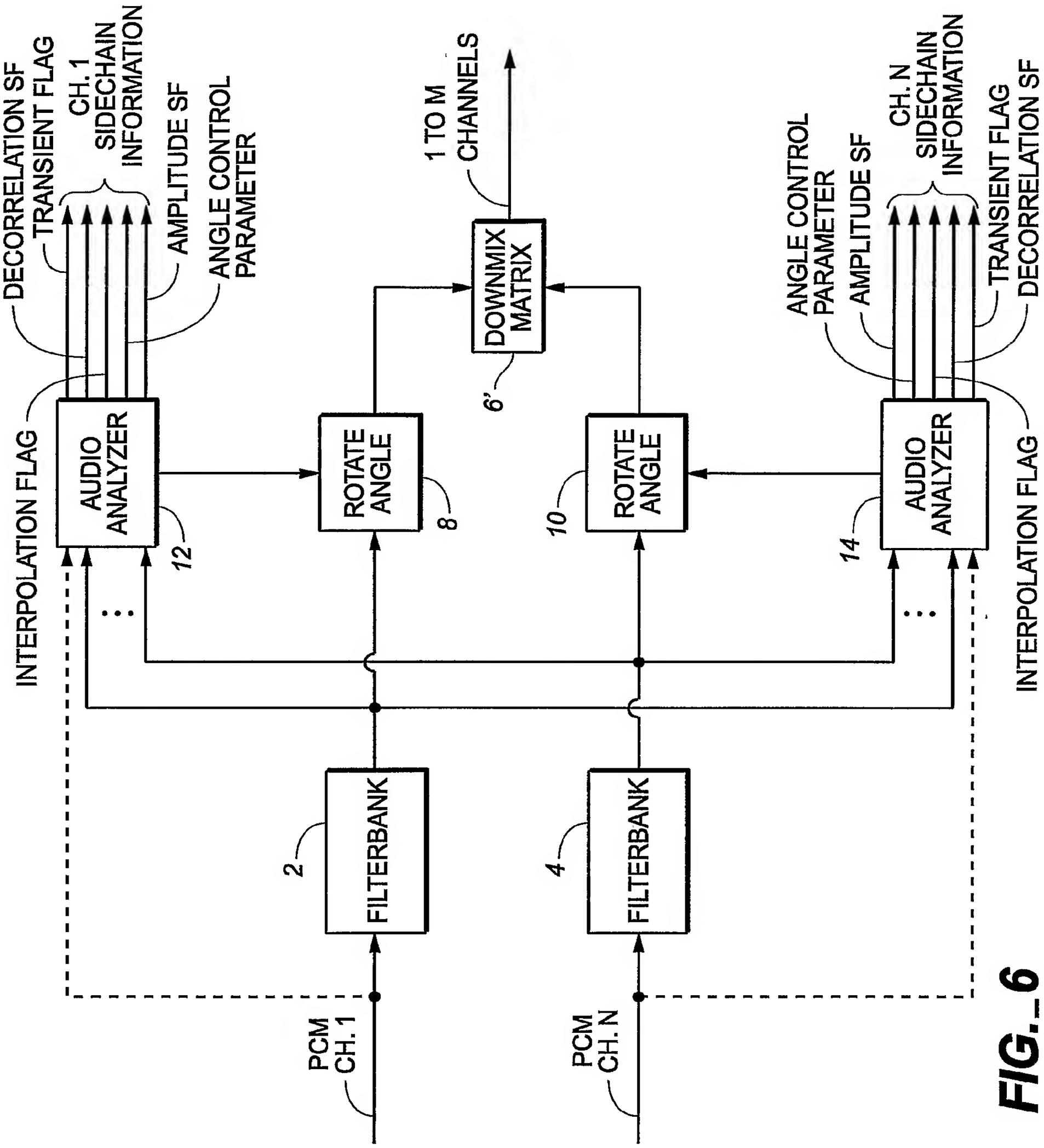

DECORRELATION SF
TRANSIENT FLAG
CH. 1 SIDECHAIN INFORMATION
AMPLITUDE SF
ANGLE CONTROL PARAMETER
1 TO M CHANNELS
DOWNMIX MATRIX
6'
INTERPOLATION FLAG
AUDIO ANALYZER
12
ROTATE ANGLE
8
ROTATE ANGLE
10
AUDIO ANALYZER
14
INTERPOLATION FLAG
FILTERBANK
2
FILTERBANK
4
PCM CH.1
PCM CH.N

FIG._6

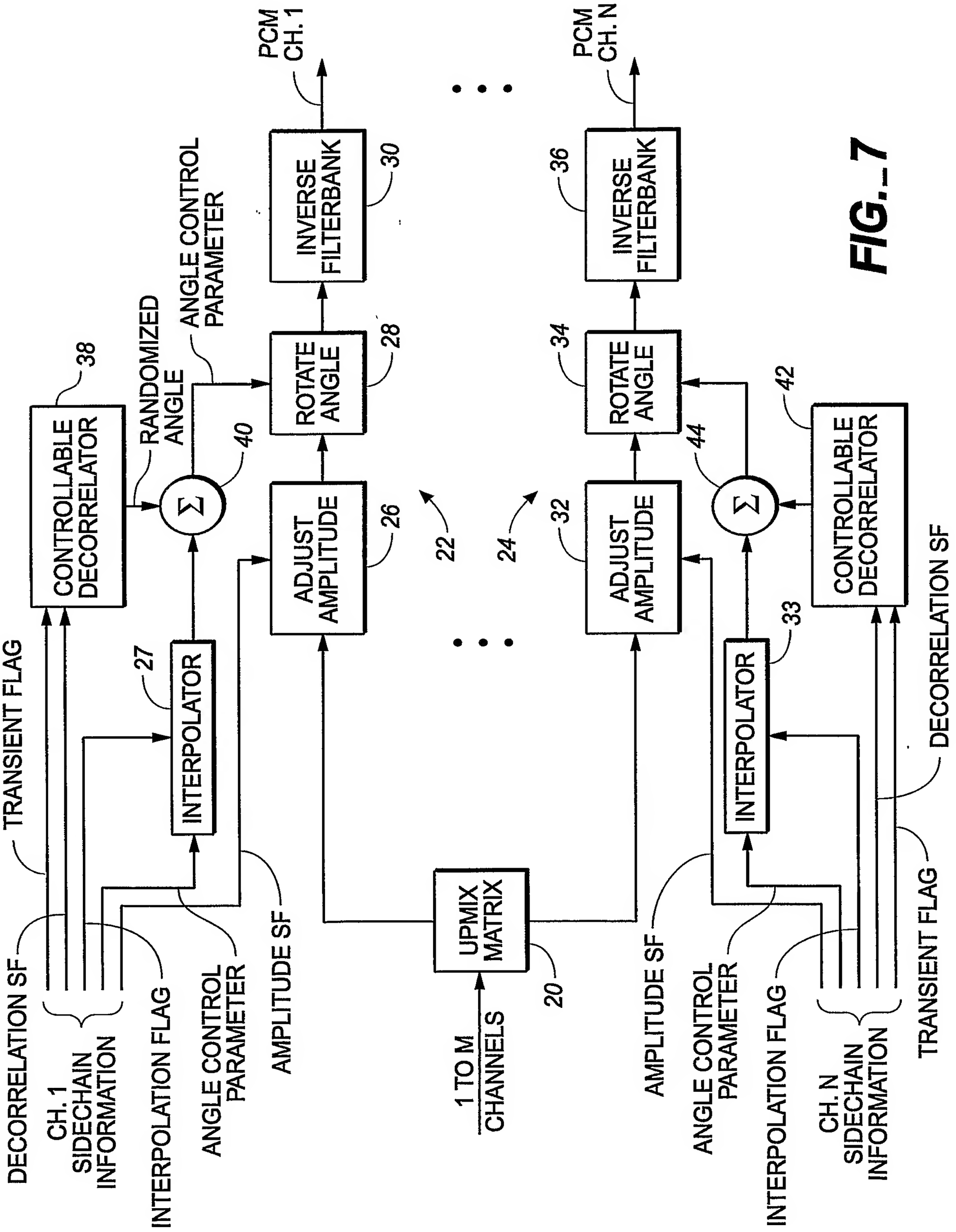

PCM CH. 1
PCM CH. N
INVERSE FILTERBANK
30
36
CONTROLLABLE DECORRELATOR
38
RANDOMIZED ANGLE
ANGLE PARAMETER
40
ROTATE ANGLE
28
34
ADJUST AMPLITUDE
26
32
22
24
INTERPOLATOR
27
33
42
44
TRANSIENT FLAG
DECORRELATION SF
CH. 1 SIDECHAIN INFORMATION
INTERPOLATION FLAG
ANGLE CONTROL PARAMETER
AMPLITUDE SF
UPMIX MATRIX
20
1 TO M CHANNELS
CH. N SIDECHAIN INFORMATION

FIG._7

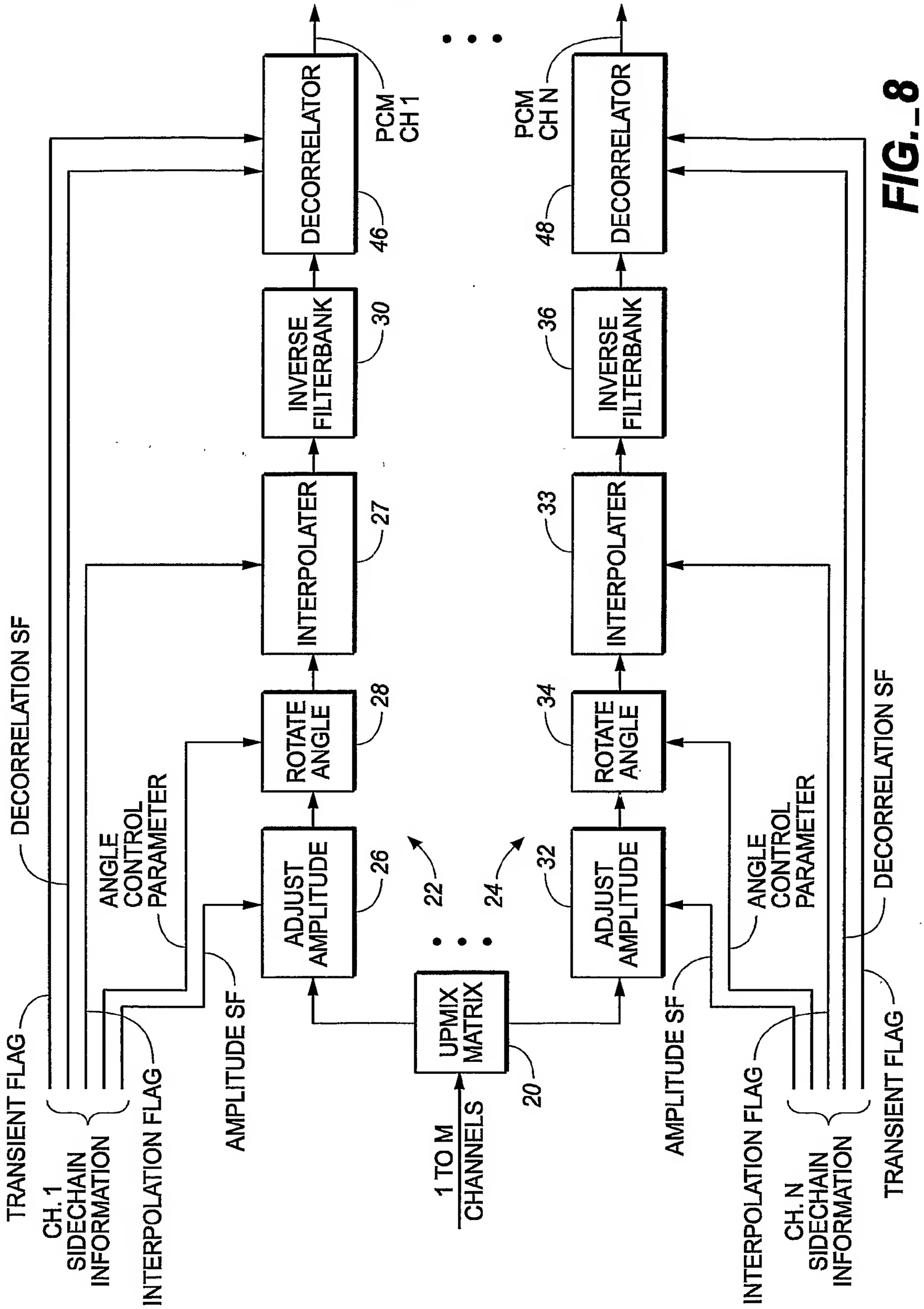

DECORRELATOR
PCM CH 1
46
DECORRELATOR
PCM CH N
48
INVERSE FILTERBANK
30
INVERSE FILTERBANK
36
INTERPOLATER
27
INTERPOLATER
33
ROTATE ANGLE
28
ROTATE ANGLE
34
ADJUST AMPLITUDE
26
ADJUST AMPLITUDE
32
22
24
DECORRELATION SF
ANGLE CONTROL PARAMETER
ANGLE CONTROL PARAMETER
TRANSIENT FLAG
CH. 1 SIDECHAIN INFORMATION
INTERPOLATION FLAG
AMPLITUDE SF
UPMIX MATRIX
20
1 TO M CHANNELS
AMPLITUDE SF
INTERPOLATION FLAG
CH. N SIDECHAIN INFORMATION
TRANSIENT FLAG

FIG._8

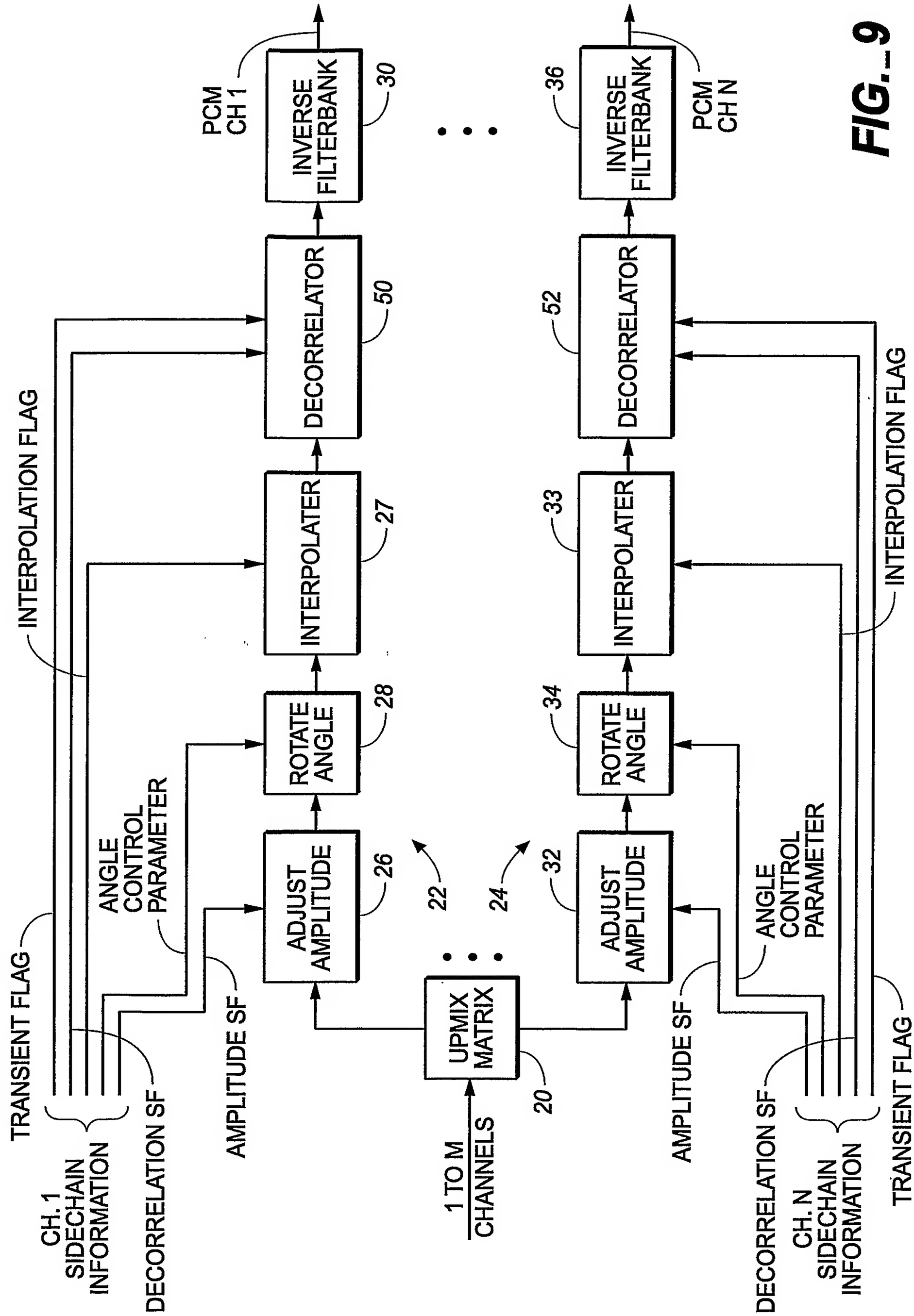

PCM CH 1
INVERSE FILTERBANK
30
PCM CH N
36
DECORRELATOR
50
52
INTERPOLATER
27
33
ROTATE ANGLE
28
34
ADJUST AMPLITUDE
26
32
22
24
UPMIX MATRIX
20
1 TO M CHANNELS
INTERPOLATION FLAG
TRANSIENT FLAG
ANGLE CONTROL PARAMETER
DECORRELATION SF
AMPLITUDE SF
CH. 1 SIDECHAIN INFORMATION
CH. N SIDECHAIN INFORMATION

FIG._9